

**LIPOPHILIC INORGANIC FILLER AND COMPOSITE RESIN COMPOSITION**

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**Abstract**

**PROBLEM TO BE SOLVED:** To obtain a lipophilic inorg. filler well swollen with a small amt. of org. cations and improving the heat resistance and rigidity of a composite resin compsn. having a high aspect ratio.  
**SOLUTION:** Org. cations are intercalated into a swellable silicate represented by the formula  $[A_a(X_bY_c)(Si_4-dAl_d)O_{12}(OH)_2F_{2-e}]$  and having  $\geq 2\mu m$  average grain diameter of single crystal grains, 70-250Å charge density and a smectite structure to obtain the objective lipophilic inorg. filler. In the formula,  $0.2 \leq a \leq 0.7$ ,  $0 \leq b \leq 3$ ,  $0 \leq c \leq 2$ ,  $0 \leq d \leq 4$ ,  $0 \leq e \leq 2$ , A is at least one cation selected from among alkali metal ions and alkaline earth metal ions, X and Y are cations entering into each octahedron in the smectite structure, X is at least one among Mg, Fe, Mn, Ni, Zn and Li, and Y is at least one among Al, Fe, Mn and Cr.

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